



**New Mexico Environment Department
Drinking Water Bureau**



**Emergency Response Protocol for
Threats or Intrusions to Public Water
Systems**

**New Mexico Environment Department
Drinking Water Bureau
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Acronyms

BAT	Best Available Technology (Water Treatment)
CD	Compact Disc
CFR	Code of Federal Register
CID	Civil Investigation Division
DWB	Drinking Water Bureau
E-Coli	Escheria Coliform
EOC	Emergency Operation Center
EOCR	Emergency Operation Center Representative
EPA	U. S. Environmental Protection Agency
ERP	Emergency Response Plan
FBI	Federal Bureau of Investigation
Haz Mat	Hazardous Material
LLE	Local law Enforcement
Lat.	Latitude
Long.	Longitude
MCL	Maximum Contaminant Level
Mg/L	Milligrams per Liter
MIOX	Mixed Oxidant (Chlorine Treatment Brand Name)
NM	New Mexico
NMDOH	New Mexico Department of Health
NMED	New Mexico Environment Department
NMEOC	New Mexico Emergency Operation Center
NMRWA	New Mexico Rural Water Association
NSF	National Sanitation Foundation
pH	Power of Hydrogen
PIO	Public Information Officer
PPE	Personal Protective Equipment
PWS	Public Water System
RCAC	Rural Community Assistance Corporation
SDWA	Safe Drinking Water Act
SEMS	Security Emergency Management System (NMRWA VA CD)
SLD	Scientific Laboratory Division of NMDOH
UV	Ultra-Violet
VA	Vulnerability Assessment
WMD	Weapons of Mass Destruction
Water ISAC	Water Information Sharing and Analysis Center

Introduction:

This protocol has been developed by the New Mexico Environment Department's Drinking Water Bureau to aide in the management of decisions and actions to be taken in the event of an actual or potential catastrophic event at public water systems. Such events may include but not be limited to terrorist attacks, malevolent actions, natural disasters, and environmental accidents that pose severe risk to the health and safety of consumers served by the public water system.

This protocol consists of six (6) chapters that focus on various categories of threats to public water systems. Within each protocol, there is a systematic set of procedures for notifications, roles, responsibilities, actions, and notification to address each category of threat being evaluated.

Overview:

Chapter 1 – Terrorism/Contamination Event: This chapter has been developed to respond to events associated with potential or known water contamination caused by terrorist type attacks on public water systems. *Chapter 2 – Terrorism/Vandalism:* This chapter has been developed to respond to terrorist/vandalism attacks that target water system facilities, infrastructure, personnel or administrative resources. *Chapter 3 – Cyber Terrorism/Vandalism:* This chapter will focus on possible attacks against computer or software assets or system facilities/operation through the Internet or phone lines (This chapter is being developed). *Chapter 4 – Accident, Natural Disaster:* This chapter will focus on threats due to fire, flood, drought, etc. *Chapter 5 - Acute E-Coli, Fecal Coliform Contamination:* This chapter describes procedures on how to address an exceedence of the maximum contaminant level (MCL) of acute micorobiological contamination of a water system due to the presence of E-Coli or Fecal Coliform bacteria per the Safe Drinking Water Act. *Chapter 6 – Acute Nitrate/Nitrite Contamination:* This chapter describes procedures on how to address an exceedence of the MCL of Nitrate (10 mg/L) per the Safe Drinking Water Act.

Appendix A - Communication Protocol: Appendix A provides guidelines to be used by public water systems to address threats or intrusions. Appendix B - Site Characterization: Appendix B provides a simplified guideline for characterizing the potential or actual contaminants introduced into a water system. Appendix C – Emergency Response Plan Development: EPA's "Emergency Response Plan Guidance for Small Water Systems to Comply with the Public Health Security and Bioterrorism Preparedness and Response Act of 2002". Appendix D – Sampling Equipment Needed for Standard Laboratory Analysis: Appendix D contains EPA's guidelines and lists of recommended sampling equipment for responding to drinking water contamination threats and incidents.

Subsequent incidents will follow similar sequences with the exceptions of Chapters 5 and 6. These types of incidents are handled in-house in the Drinking Water Bureau with the co-operation of NM Dept. of Health (NMDOH). These two protocols have been in existence for several years. These protocols are designed to lead to a similar resolution: The water system facility(s) will be returned to normal operation and the system will provide safe drinking water at a reliable pressure. These protocols are "Living Documents" and will change with the evolution of emergency response.

Chapterr 1. Terrorism (Potential or Known Water Contamination Event or Threat)

Emergency Response Actions

I. Initial Actions of NMED/DWB

1. Notification of incident normally comes in one of two ways:
 - A. From the water system to the system's oversight person;
 - B. From some other source (NMED on-call emergency contact or Albuquerque emergency response coordinator, etc.).
2. Log in phone call immediately;
3. Obtain as much of the following information as possible
 - A. Time of incident
 - B. Nature of incident (describe exactly what damage occurred or what could have occurred, ie.chemicals or contamination brought into the compound and dumped or pumped into wells, storage tanks, clearwells, distribution system, etc.
 - C. Time of discovery/time since last inspection of the facility in question
 - D. Location of incident (description or latitude/longitude);
 - E. Who has been contacted? (State police, fire, sheriff, etc.)
 - F. Who responded? List the respondents' conclusions, if any.
 - G. What is the probable source of the threat (high school or other vandal, robbery, disgruntled employee, extremist group activity, terrorist, etc.)
 - H. What was the probable target?
 - I. What are the existing counter measures (security fence, hardened building or locks, entrance or motion alarms, etc) at the facility and what was breached?
 - J. Does the system chlorinate or disinfect its water?
 - K. If unavailable from the file, obtain a description of the pumping dynamics and flow of the system (i.e. can a well, intake, treatment plant, storage tank, distribution section, etc. be flushed or isolated from the system?)
 - L. What steps has the system taken?
4. Notify Drinking Water Bureau Emergency Response Coordinator in Santa Fe (Darren Padilla, (505) 476-8631).

II. Responsibilities of the DWB District Security Coordinator

1. Takes the lead for NMED/DWB in their District;

2. Maintains contact with other agencies: police, FBI, EPA CID, NMDOH, NMED Hazardous Waste Bureau (Spill Response Team), NM Governor's Office of Homeland Security.
3. Gather all possible information about the incident and the water system.
4. Advise the NM Emergency Operation Center (NMEOC) in Santa Fe of the chain of command for this incident, ie: name and contact information of the DWB District Security Coordinator and the water system oversight person.
5. Oversee the site characterization process, see Appendix "B", (not on-site);
6. Obtain results of Rapid Field Screening (radiological air samples, cyanide, conductivity, pH and chlorine residual samples). Compare these results to historical background levels to identify abnormal results.
7. Based on these results and other information, develop a sampling strategy in conjunction with the EPA Region 6 emergency response team.
8. Contact sampling gatekeeper in Santa Fe DWB office to check for laboratory water time credits that can be used for to pay for emergency sampling costs (priority 2 or 3).
9. If needed, help water system develop a strategy for responding to this event.
 - A. The response is threefold and must address all three areas:
 - 1) Initial response – Immediate actions
 - 2) Restoration – Actions to restore the supply of safe drinking water to all consumers;
 - 3) Remediation – Long term repair/replacement of critical and other facilities.
10. Develop a public notification strategy for this particular event and make sure NMED recommendations/requirements are given to the system. Keep NM Department of Health (NMDOH) apprised of all public notification done by the system. NMDOH may need input into public notification.
 - A. "Do Not Use Order" vs "Do Not Drink Order";
 - B. If immediate response is needed by consumers to public notification order, consider adding food dye to the water;
 - C. See item V. of this chapter (Public Notification).
11. Keep a running electronic report of all incidents, times, contacts, developments, etc.
 - A. You may get requests for updates from many different sources.
12. Be prepared to refer the media to the NMED Communications Director or conduct a media interview if asked by the Drinking Water Bureau Chief.

13. Notification of nearby water systems of this incident. Recommend that facilities be inspected and security patrols be increased.
14. Notify and update the Water ISAC.
15. Arrange to obtain copies of any police, sheriff's reports, etc.

III. Responsibilities of the DWB Oversight Staff Person

1. This person is the liason with the water system. Questions for the water system from agencies/others will come through the NMEOC and the District Emergency Response Coordinator. Answers from the water system come from the system to the oversight person to the District Emergency Response Coordinator through the NMEOC to the requesting agency.
2. Has sole responsibility for contacting the water system. (This prevents over burdening the water system with contacts from numerous interested parties and agencies, while they are trying to respond to the emergency).

Exception: Sometimes law enforcement (EPA CID, FBI) wants information directly from the system. This access can and should be granted.
3. Provide on-site assistance to the water system if requested;
4. Contact water system with questions, requirements, recommendations and reminders. Limit contacts as much as possible.
5. Assist system with site characterization, rapid field screening, sampling assistance (total coliform and standard laboratory sampling for targeted contaminants). Bureau sampling personnel can also be enlisted for this. The water system may have to pay for laboratory testing, since the Drinking Water Bureau's Water Conservation Fund is only designed for "routine compliance sampling".
6. Recommend to the water system that they authorize payment for 1 or more priority 1 "complete secondary" samples. A "complete secondary" sample tests for a wide selection of water quality parameters and is a better indicator of changes in water quality than just testing for conductivity and pH. If priority 1 is used, the results will be available quickly (1 – 2 days). Also, this one test is not too expensive and will give valuable information. NMED/DWB sampling personnel may be available to collect this sample for the water system.
7. SLD laboratory contact for information or request for high priority samples. Approval for priority 1 or 2 samples from Santa Fe (Gatekeeper or Bureau Chief) must be obtained prior to requesting high priority sample analysis from the SLD. Once, this approval is obtained, the approval of the SLD Bureau Chief (841-2510) is required. Early notification of the SLD Bureau Chief is requested so the lab can prepare for Priority 1 or 2 samples.

8. All emergency samples sent to the laboratory for analysis must have the chain of custody forms completed on the reverse of the analytical request forms. Sample containers must be sealed with evidence tape. SLD will take photographic evidence upon receipt of sample containers to confirm sample integrity.
9. Offer assistance for finding resources for response and recovery. This includes resources for:
 - A. Alternate water source / Delivery
 - B. Technical assistance
 - C. Assistance from nearby water systems
 - D. Assistance with media and communication
 - E. Use of an experienced certified operator.
10. Offer assistance for finding resources for remediation (long term restoration).

IV. Responsibilities of the Water System and Reminders/Triggers to Help NMED Assist the PWS and Track the Emergency Response Progress

1. Follow decision tree
 - A. Is the threat possible?
 - B. Is the threat credible?
 - C. Has the incident been confirmed?
2. Once incident is confirmed, system must make 3-4 phone calls
 - A. Local law enforcement or the state police;
 - B. NM Emergency Operations Center (NMEOC) in Santa Fe (505) 476-9635
 - 1) Use the approved form designed to supply the NMEOC with all the information it needs. See Appendix "A".
 - C. The local NMED/DWB office supervisor or oversight person;
 - D. If there is evidence of terrorism, call the FBI (505) 224-2000;
3. System must activate its emergency response plan if the incident has been confirmed. If they don't have one, NMED/DWB needs to help them make decisions and determine what actions should be taken. (See Appendix "C" for tools and resources for creating a small water system ERP).
4. Protection of evidence awareness
 - A. The water system should use already prepared protection of evidence awareness protocols.
 - B. Law enforcement responds much better and more efficiently when there is some evidence to process.
5. In a potential water contamination situation, water system personnel must be aware that any contaminant known to man may have been released at the facility. This includes WMD, radioactive material, bio-toxins, pathogens, etc. and can

include: water contamination hazard, inhalation and dermal contact hazard. If there is any evidence of these hazards, the investigation must stop immediately and qualified emergency responders must be called.

6. In the event of potential water contamination, inhalation hazard, radiation hazard or dermal hazard, the water system, in conjunction with NMED personnel must conduct a site characterization study of the potential contamination site. This study is to determine if hazardous substances have been brought into the site and if and what may have been dumped in a storage tank, source or the distribution system. The site characterization study probably won't determine what contaminant has been used, but it may help determine what kind of sampling is needed to make decisions regarding response actions. A brief description of the site characterization process is included in Appendix B.
7. During "Site Characterization", the system must perform a complete damage assessment of the site. This includes looking at all facilities (wells, treatment, storage tanks, booster pumps, electrical components, etc.). Damage assessment, if a well, tank, transmission main, etc. was breached also includes testing the drinking water with the basic emergency response test kit (cyanide, conductivity, pH and chlorine residual and radiation in the water). The water should be tested at different locations, (ie if a storage tank was breached, test the water at the top of the tank and after the tank, etc.). If there is indication of contamination, the system must do follow-up sampling to determine the extent of the contamination.
8. Another aspect of damage assessment during a potential contamination incident is inspecting the surface of the water in any suspect storage tanks. An oily sheen on the surface could indicate VOC contamination. Also look for anything suspicious that is floating on the surface, in the water or on the bottom, that could indicate what kind of contamination to test for.
9. Isolate the contamination from the rest of the system with valving to contain possible contamination.
10. Boost the chlorine residual in the distribution system.
11. Collection of chlorine residual samples throughout the distribution system.
12. Collection of total coliform samples ASAP to determine if contamination of the water has occurred.
13. In any potential contamination incident, NMED/DWB recommends that the water system pay for a priority 1, "complete secondary" sample. A "complete secondary" tests for a wide selection of water quality parameters and is a better indicator of changes in water quality than just testing for conductivity and pH. If priority 1 is used, the results will be available quickly (1 – 2 days). Also, this one test is not too expensive and will give valuable information. NMED/DWB sampling personnel may be available to collect this sample for the water system.

14. If water contamination has been identified and a “Do not Drink Order” or “Do Not Use Order” has been issued, the water system must provide a source of alternate drinking water. If needed, NMED/DWB should assist the water system with this, ie help obtaining National Guard water buffaloes, other water or milk haulers, etc. The water system must activate their own ERP and any mutual aid agreements the system has with other water systems.
15. Identify additional/secondary damage sites
 - A. Dispatch a crew to check the other water system facilities.
 - B. If there is secondary damage, follow the other recommendations in this plan.
16. The NM Rural Water Association, may be able to supply emergency assistance with shock chlorination and chlorination technology, (505) 884-1031.
17. If a system does not have an emergency response plan (ERP), please refer to Appendix C. This appendix includes resources/tools for creating a small water system ERP.
18. Consumer notification (see Section V.).

V. Public Notification

1. Specific public notification routes:
 - A. Water system customers – public water system
 - B. 62 community water systems serving 3300 people and other community water systems – NMED/DWB;
 - C. Broadcast and print media – NMED Communications Director or the NMEOC.
2. Existing communications networks
 - A. NMED – Adam Rankin, Communications Director, (505) 827-0314
 - B. NMEOC (NM Emergency Operations Center in Santa Fe), (505) 476-9635
 - C. NMDOH EOCR, (505) 231-5506
 - D. PWS – Public information officer (PIO);
 - E. NM Governor’s Office of Homeland Security, (505) 476-9613
 - F. Local law enforcement (LLE), state police, FBI.
3. When to issue public notification
 - A. If there is a realistic chance that contaminated water has entered the distribution system. In this case, the water system must notify its potentially affected customers in accordance with Safe Drinking Water Act (SDWA) Tier 1 requirements (if the contamination has not been identified,, do not include health effects language). The media should be contacted by an NMED press release or the NMEOC.
 - B. If it is unknown whether contaminated water has entered the distribution system or if this is a possibility, public notification will be decided on a

case-by-case basis by NMED/DWB, and the water system. At a minimum, the water system's customers should be notified of the incident.

- 1) This message should briefly describe the incident and what steps the system is taking to restore service and/or provide an alternate drinking water source.
 - a) The message should also advise customers how to cooperate and assist with the response and provide information on how customers can get updated, future information.
- C. If there is no possibility that the distribution system has been contaminated, public notification is not necessary.
4. General types of public notification for potential water contamination incidents
 - A. *Precautionary Boil Advisory* – When there may be fecal/bacteriological contamination that would be killed by boiling water;
 - B. *Boil Advisory* – When there is fecal/bacteriological contamination or other pathogen that would be killed by boiling water;
 - C. *Do not Drink Order* – When there has been contamination, the contaminant is known and or there is no risk of dermal or inhalation exposure;
 - D. *Do Not Use Order* – When there is contamination, there may be a risk of dermal or inhalation exposure or the contaminant is not known.
 - E. *Notification of Incident* – When it is unknown if the system has been contaminated or not.

VI. Final Response Evaluation and ERP Refinement

1. Review response
2. Evaluate response
 - A. What worked?
 - B. What did not work?
 - C. Develop list of "Lessons Learned"
 - D. Recommendations for ERP improvement
3. Update NMED/DWB ERP based on recommendations
4. Update water system ERP based on recommendations

This document is a work in progress and may be amended in the future.

Chapter 2. Terrorism/Vandalism (Attack or Threat against water system facilities, infrastructure, personnel, or administrative resources)

Emergency Response Actions

I. Initial Actions of NMED/DWB

1. Notification of incident normally comes in one of two ways:
 - A. From the water system to the system's oversight person;
 - B. From some other source (NMED on-call emergency contact or Albuquerque emergency response coordinator, etc.).
2. Log in phone call immediately;
3. Obtain as much of the following information as possible
 - A. Time of incident
 - B. Nature of incident (describe exactly what damage occurred or what was stolen, etc.
 - C. Time of discovery/time since last inspection of the facility in question
 - D. Location of incident (description or latitude/longitude);
 - E. Who has been contacted? (State police, fire, sheriff, etc.)
 - F. Who responded? List the respondents' conclusions, if any.
 - G. What is the probable source of the threat (high school or other vandal, robbery, disgruntled employee, extremist group activity, terrorist, etc.)
 - H. What was the probable target?
 - I. What are the existing counter measures (security fence, hardened building or locks, entrance or motion alarms, etc) at the facility and what was breached?
 - J. If unavailable from the file, obtain a description of the pumping dynamics and flow of the system (i.e. can a well, intake, treatment plant, storage tank, distribution section, etc. be flushed or isolated from the system?)
 - K. What steps has the system taken?
4. Notify Drinking Water Bureau Emergency Response Coordinator in Santa Fe (Darren Padilla, (505) 476-8631).

II. Responsibilities of the DWB District Emergency Response Coordinator

1. Takes the lead for NMED/DWB in their District;
2. Maintain contact with other agencies: police, FBI, EPA CID, NMDOH, NMED Hazardous Waste Bureau (Spill Response Team).

3. Gather all possible information about the incident and the water system.
4. Advise the NM Emergency Operation Center (NMEOC) in Santa Fe of the chain of command for this incident, ie: name and contact information of the DWB District Security Coordinator and the water system oversight person.
5. Provide assistance to the system in assessing the damage if requested.
6. If needed, help water system develop a strategy for responding to this event.
 - A. The response is threefold and must address all three areas:
 - 1) Initial response – Immediate actions
 - 2) Restoration – Actions to restore the supply of safe drinking water to all consumers;
 - 3) Remediation – Long term repair/replacement of critical and other facilities.
7. Develop a public notification strategy for this particular event and make sure NMED recommendations/requirements are given to the system. Keep NM Department of Health (NMDOH) apprised of all public notification done by the system.
 - A. See item V. of this chapter (Public Notification).
8. Notification of nearby water systems of this incident. Recommend that facilities be inspected and security patrols be increased.
9. Keep a running electronic report of all incidents, times, contacts, developments, etc.
 - A. You may get requests for updates from many different sources.
10. Notify and update the Water ISAC.
11. Arrange to obtain copies of any police, sheriff's reports, etc.

III. Responsibilities of the DWB Oversight Staff Person

1. This person is the liason with the water system. Questions for the water system from agencies/others will come through the NMEOC and the District Emergency Response Coordinator. Answers from the water system come from the system to the oversight person to the District Emergency Response Coordinator through the NMEOC to the requesting agency.
2. Has sole responsibility for contacting the water system. (This prevents over burdening the water system with contacts from numerous interested parties and agencies, while they are trying to respond to the emergency).

Exception: Sometimes law enforcement (EPA CID, FBI) wants information directly from the system. This access can and probably should be granted.

3. Provide on-site assistance to the water system if requested;
4. Contact water systems with questions, requirements, recommendations and reminders. Limit contacts as much as possible.
5. Offer and execute on-site total coliform monitoring assistance if needed.
6. Offer assistance for finding resources for response and recovery. This includes resources for:
 - A. Alternate water source / Delivery
 - B. Technical assistance
 - C. Assistance from nearby water systems
 - D. Assistance with media and communication
 - E. Use of an experienced certified operator.

IV. Responsibilities of the Water System and Reminders/Triggers to Help NMED Assist the PWS and Track the Emergency Response Progress

1. Follow decision tree
 - A. Is the threat possible?
 - B. Is the threat credible?
 - C. Has the incident been confirmed?
2. Once incident is confirmed, system must make 3-4 phone calls
 - A. Local law enforcement or the state police;
 - B. NM Emergency Operations Center (NMEOC) in Santa Fe (505) 476-9635
 - 1) Use the approved form designed to supply the NMEOC with all the information it needs. See Appendix "A".
 - C. The local NMED/DWB office supervisor or oversight person;
 - D. If there is evidence of terrorism, call the FBI (505) 224-2000;
3. System must activate its emergency response plan if the incident has been confirmed. If they don't have one, NMED/DWB needs to help them make decisions and determine what actions should be taken.
4. In any attack against a public water system facility, there is always the possibility that some kind of contaminant (WMD, bio-toxin, pathogen, industrial chemical, etc.) may have been brought into the area. Water system personnel must be aware of this and be prepared to go through the site characterization process described in Item 4. If there is any evidence of any of inhalation, radiological or dermal contact hazard, the investigation must stop immediately and qualified emergency responders must be called.

5. In the event of potential water contamination, inhalation hazard, radiation hazard or dermal hazard the water system or the water system, in conjunction with NMED personnel should conduct a site characterization study of the potential contamination site. This study is to determine if hazardous substances have been brought into the site and if and what may have been dumped in a storage tank, source or the distribution system. The site characterization study probably won't determine what contaminant has been used, but it may help determine what kind of sampling is needed to make decisions regarding response actions. A detailed description of the site characterization process is included in Appendix B.
6. If contamination of some kind is found, follow the response actions in Chapter 1.
7. Protection of evidence awareness
 - A. The water system should use already prepared protection of evidence awareness protocols.
 - B. Law enforcement responds much better and more efficiently when there is some evidence to process.
8. Identify additional/secondary damage sites
 - A. Dispatch a crew to check the other water system facilities.
 - B. If there is secondary damage, follow the other recommendations in this plan.
9. Isolate facilities with valving to control water loss and resume normal/semi normal operations.
10. Boost the chlorine residual in the distribution system if needed.
11. Collection of chlorine residual samples throughout the distribution system.
12. Collection of total coliform samples ASAP to determine if contamination of the water has occurred.
13. The NM Rural Water Association, may be able to supply emergency assistance with shock chlorination and chlorination technology, (505) 884-1031.
14. If the situation is a cyber attack, please refer to Chapter 3.
15. The system should keep a back-up set of billing records in case these are destroyed so they can be accessed again after an attack.
16. NMED/DWB keeps some back-up water system as-built drawings, operation and maintenance plans, sanitary surveys, and other information that can be provided to the system if needed.
17. In case of a personnel attack, activate the system's emergency response plan. NMED assistance is available.

18. If a system does not have an emergency response plan (ERP), please refer to Appendix C. This appendix includes resources/tools for creating a small water system ERP
19. Consumer notification (see Section V.).

V. Public Notification

1. Specific public notification routes:
 - A. Water system customers – public water system
 - B. 62 community water systems serving 3300 people and other community water systems – NMED/DWB;
 - C. Broadcast and print media – NMED Communications Director or the NMEOC.
2. Existing communications networks
 - A. NMED – Adam Rankin, Communications Director, (505) 827-0314
 - B. NMEOC (NM Emergency Operations Center in Santa Fe), (505) 476-9635
 - C. NMDOH EOCR, (505) 231-5506
 - D. PWS – Public information officer (PIO);
 - E. NM Governor’s Office of Homeland Security, (505) 476-9613
 - F. Local law enforcement (LLE), state police, FBI.
3. When to issue public notification
 - A. If there is a realistic chance that contaminated water has entered the distribution system. In this case, the water system must notify its potentially affected customers in accordance with Safe Drinking Water Act (SDWA) Tier 1 requirements. In an infrastructure attack, the system will probably be dealing with the possibility of total and E-Coli bacteria and other microbiological contamination. The media should be contacted by an NMED press release or the NMEOC.
 - B. If it is unknown whether contaminated water has entered the distribution system. Public notification will be decided on a case-by-case basis by NMED/DWB, and the water system. Microbiological contamination can be dealt with effectively with chlorine disinfection.
 - C. The water system’s customers should be notified of the incident. This message should briefly describe the incident and what steps the system is taking to restore service and/or provide an alternate drinking water source. The message should also advise customers how to cooperate and assist with the response and provide information on how customers can get updated, future information.
4. General types of public notification for infrastructure attacks
 - A. Precautionary Boil Advisory – When there may be fecal/bacteriological contamination that would be killed by boiling water.

- B. Boil Advisory – When there is fecal/bacteriological contamination or other pathogen that would be killed by boiling water.
- C. Notification of Incident – To keep the water system’s customers in the information loop, to minimize panic and to gain and keep the customer’s trust.

VI. Final Response Evaluation and ERP Refinement

- 1. Review response
- 2. Evaluate response
 - A. What worked?
 - B. What did not work?
 - C. Develop list of “Lessons Learned”
 - D. Recommendations for ERP improvement
- 3. Update NMED/DWB ERP based on recommendations
- 4. Update water system ERP based on recommendations

This document is a work in progress and may be amended in the future.

Chapter 3. Terrorism/Vandalism (Cyber Attack Against Computer or Software Assets or System Facilities through the Internet or Phone Lines)

This section has not been developed yet.

Chapter 4. Accident or Natural Disaster (fire, flood, drought, etc.)

Emergency Response Actions

I. Initial Actions of NMED/DWB

1. Notification of incident normally comes in one of two ways:
 - A. From the water system to the system's oversight person;
 - B. From some other source (NMED on-call emergency contact or Albuquerque emergency response coordinator, etc.).
2. Log in phone call immediately;
3. Obtain as much of the following information as possible
 - A. Time of incident
 - B. Nature of incident (describe exactly what damage occurred or what was stolen, etc.).
 - C. Location of incident (description or latitude/longitude);
 - D. Who has been contacted? (State police, fire, sheriff, etc.)
 - E. Who responded? List the respondents' conclusions, if any.
 - F. If unavailable from the file, obtain a description of the pumping dynamics and flow of the system (i.e. can a well, intake, treatment plant, storage tank, distribution section, etc. be flushed or isolated from the system?).
 - G. What steps has the system taken?
4. Notify Drinking Water Bureau Emergency Response Coordinator in Santa Fe (Darren Padilla, (505) 476-8631).

II. Responsibilities of the DWB District Emergency Response Coordinator

1. Takes the lead for NMED/DWB in their District;
2. Maintains contact with other agencies: police, FBI, EPA CID, NMDOH, NMED Hazardous Waste Bureau (Spill Response Team).
3. Gather all possible information about the incident and the water system.
4. Advise the NM Emergency Operation Center (NMEOC) in Santa Fe of the chain of command for this incident, ie: name and contact information of the DWB District Security Coordinator and the water system oversight person.
5. Provide assistance to the system in assessing the damage if requested.

6. If needed, help water system develop a strategy for responding to this event.
 - A. The response is threefold and must address all three areas:
 - 1) Initial response – Immediate actions
 - 2) Restoration – Actions to restore the supply of safe drinking water to all consumers;
 - 3) Remediation – Long term repair/replacement of critical and other facilities.
7. Develop a public notification strategy for this particular event and make sure NMED recommendations/requirements are given to the system. Keep NM Department of Health (NMDOH) apprised of all public notification done by the system.
 - A. See item V. of this chapter (Public Notification).
8. Be aware that this natural disaster may have adversely affected other public water systems. Be prepared for this possibility.
9. Keep a running electronic report of all incidents, times, contacts, developments, etc.
 - A. You may get requests for updates from many different sources.

III. Responsibilities of the DWB Oversight Staff Person

1. This person is the liaison with the water system. Questions for the water system from agencies/others will come through the NMEOC and the District Emergency Response Coordinator. Answers from the water system come from the system to the oversight person to the District Emergency Response Coordinator through the NMEOC to the requesting agency.
2. Has sole responsibility for contacting the water system. (This prevents over burdening the water system with contacts from numerous interested parties and agencies, while they are trying to respond to the emergency).
3. Provide on-site assistance to the water system if requested;
4. Contact water system with questions, requirements, recommendations and reminders. Limit contacts as much as possible.
5. Offer and execute on-site total coliform monitoring assistance if needed.
6. Offer assistance for finding resources for response and recovery. This includes resources for:
 - A. Alternate water source / Delivery
 - B. Technical assistance
 - C. Assistance from nearby water systems
 - D. Assistance with media and communication

- E. Use of an experienced certified operator.

IV. Responsibilities of the Water System and Reminders/Triggers to Help NMED Assist the PWS and Track the Emergency Response Progress

1. Follow decision tree
 - A. Is the threat possible?
 - B. Is the threat credible?
 - C. Has the incident been confirmed?
2. Once incident is confirmed, system must make 3-4 phone calls
 - A. Local law enforcement or the state police;
 - B. NM Emergency Operations Center (NMEOC) in Santa Fe (505) 476-9635
 - 1) Use the approved form designed to supply the NMEOC with all the information it needs. See Appendix "A".
 - C. The local NMED/DWB office supervisor or oversight person;
3. System must activate its emergency response plan if the incident has been confirmed. If they don't have one, NMED/DWB needs to help them make decisions and determine what actions should be taken. The water system should refer to Appendix "C" for information on creating a small water system emergency response plan (ERP).
4. Isolate facilities with valving to control water loss and resume normal/semi normal operations.
5. It is possible that if a facility is damaged/destroyed during a natural disaster or accident, that bacteria and microbiological contamination may have entered the system.
 - A. Boost the chlorine levels in affected areas;
 - B. Collect chlorine residual readings and record the results;
 - C. Collect "special" total coliform samples to determine the extent of the contamination;
 - D. Disinfect contaminated portions of the distribution system;
 - E. The NM Rural Water Association may be able to supply emergency assistance with shock chlorination and chlorination technology, (505) 884-1031.
6. Identify additional/secondary damage sites
 - A. Dispatch a crew to check the other water system facilities.
 - B. If there is secondary damage, follow the other recommendations in this plan.
7. NMED/DWB keeps some back-up water system as-built drawings, operation and maintenance plans, sanitary surveys, and other information that may be provided to the system if needed.

8. The system should keep a back-up set of billing records in case these are destroyed so they can be accessed again after an attack.
9. In case of a personnel attack, activate the system's emergency response plan. NMED assistance is available.
10. If a system does not have an emergency response plan (ERP), please refer to Appendix C. This appendix includes resources/tools for creating a small water system ERP
11. Consumer notification (see Section V.).

V. Public Notification

1. Specific public notification routes:
 - A. Water system customers – public water system
 - B. 62 community water systems serving 3300 people and other community water systems – NMED/DWB;
 - C. Broadcast and print media – NMED Communications Director or the NMEOC.
2. Existing communications networks
 - A. NMED – Adam Rankin, Communications Director, (505) 827-0314
 - B. NMEOC (NM Emergency Operations Center in Santa Fe), (505) 476-9635
 - C. NMDOH EOCR, (505) 231-5506
 - D. PWS – Public information officer (PIO);
 - E. NM Governor's Office of Homeland Security, (505) 476-9613
 - F. Local law enforcement (LLE), state police, FBI.
3. When to issue public notification
 - A. If there is a realistic chance that contaminated water has entered the distribution system. In this case, the water system must notify its potentially affected customers in accordance with Safe Drinking Water Act (SDWA) Tier 1 requirements. In a natural disaster, the system will probably be dealing with the possibility of total and E-Coli bacteria and other microbiological contamination. The media should be contacted by an NMED press release or the NMEOC.
 - B. If it is unknown whether contaminated water has entered the distribution system. Public notification will be decided on a case-by-case basis by NMED/DWB, and the water system. Microbiological contamination can be dealt with effectively with chlorine disinfection.
 - C. The water system's customers should be notified of the incident. This message should briefly describe the incident and what steps the system is taking to restore service and/or provide an alternate drinking water source. The message should also advise customers how to cooperate with and

assist with the response and provide information on how customers can get updated, future information.

4. General types of public notification for infrastructure attacks
 - A. Precautionary Boil Advisory – When there may be fecal/bacteriological contamination that would be killed by boiling water.
 - B. Boil Advisory – When there is fecal/bacteriological contamination or other pathogen that would be killed by boiling water.
 - C. Notification of Incident – To keep the water system’s customers in the information loop, to minimize panic and to gain and keep the customer’s trust.

VI. Final Response Evaluation and ERP Refinement

1. Review response
2. Evaluate response
 - A. What worked?
 - B. What did not work?
 - C. Develop list of “Lessons Learned”
 - D. Recommendations for ERP improvement
3. Update NMED/DWB ERP based on recommendations
4. Update water system ERP based on recommendations

This document is a work in progress and may be amended in the future.

Chapter 5. Acute E-Coli, Fecal Coliform Contamination Event

Emergency Response Protocol for Acute Microbiological Violations for Oversight Staff and Water Systems

An acute total coliform MCL violation occurs in 1 of 3 ways: 1. A “Routine” total coliform sample is positive for total coliform and one or more of the “Repeat” samples are E-coli/fecal coliform positive. 2. A “Routine” total coliform sample is E-coli/fecal coliform positive and one or more of the “Repeat” samples is total coliform positive. 3. The state can allow a system to declare an “acute violation” after a total coliform positive result but the system will still have to collect the 3 or 4 required “Repeat” samples.

Note: In the case where a “Routine” sample is E-coli/fecal coliform positive and the proper number of “Repeat” samples are not collected properly, this seems like it should generate an “Acute Violation”. However, a violation for this is not spelled out in the regulations, so, it is not considered to be a violation.

1. The system is notified by the lab of the “Routine” result and then the “Repeat” result.
2. The system is required to notify NMED/DWB of the acute violation, but this step is usually taken care of when the lab contacts the appropriate DWB staff in the local field office. However, notification to the state of the violation is ultimately the responsibility of the water system.
3. NMED/DWB is notified by the lab of the “Routine” result and then the “Repeat” results. NMED/DWB determines that an acute total coliform violation has occurred.
4. The oversight staff person calls the DWB/NMDOH liaison in the Santa Fe DWB office for co-ordination between the DWB main office, Department of Health (Epidemiology), the field office supervisor and the oversight staff.
5. During this collaboration, the decision as to whether or not to issue a “Precautionary Boil Advisory” or “Boil Advisory” should be made. The issuance and wording of an “NMED Press Release” should also be discussed and decided upon. If a “press release” is needed, the NMDOH liaison will arrange it with the NMED Communication Director. If the NMDOH liaison is not available, contact the NMED Communication Director directly.
6. NMED notifies the water system contact person of the violation and gets the fax number or e-mail address of the system, so a blank public notice or “boil advisory” notice can be

sent to the system. The oversight staff advises the water system how to fill out the public notification form. This is a critical step because acute violations often occur late on Friday afternoons (Fecal Fridays). This allows their customers to get notified of the violation/solutions on Friday night rather than the following Monday. The time of this notification starts the clock ticking for further compliance deadlines. If it is possible to get your supervisor's and the NMDOH liaison's concurrence on the delivery manner of the public notice before the weekend, this should be obtained.

7. If an E-coli/fecal coliform positive sample is reported, but the results of the "Repeat" samples have not been received by Friday, a "Precautionary Boil Advisory" or a "Precautionary Public Notice" can be posted for the weekend until the results are obtained for the "Repeat" samples.
8. If a "boil advisory" is required, the system will be required to advise all of its consumers to boil water in a clean container for at least 5 minutes at a rolling boil. This boiled water should then be used for all human consumption purposes. See Appendix "5B" for more information on "Boil Advisories".
9. **It is the system's responsibility to keep in contact with the DWB oversight person on a daily basis until the emergency is resolved.** During these contacts, the oversight person will update the system on decisions made between the field office, Santa Fe and the Dept. of Health.
10. NMED/DWB oversight staff must conduct an investigative site visit to the water system as soon as possible but within 5 working days of first notification to the system. If NMED staff are not available, the NMRWA (DWB's technical assistance contractor) can perform this inspection. The purpose of this visit is to help the water system understand all of the requirements under this violation, and to determine the cause of the e-coli/fecal coliform contamination. If the cause cannot be determined, make the best one or two guesses that could have caused this emergency. This site visit is also an ideal time to create a total coliform sample siting plan for systems that do not have one, review the requirements of the Total Coliform Rule and talk about well construction deficiencies, proper sampling procedures that can eliminate contaminating total coliform sample bottles and proper methodology for collecting chlorine residual readings. (See Appendix "5A" for a checklist of technical assistance questions that need to be asked to help determine the cause of the fecal contamination).
11. The public notice requirements of this violation must also be gone over thoroughly with the system during this visit. 40 CFR 141.202.c states: "Public water systems must provide the notice within 24 hours in a form and manner reasonably calculated to reach all persons served. The form and manner used by the public water system are to fit the specific situation, but must be designed to reach residential, transient and non-transient users of the water system. In order to reach all persons served, water systems are to use at a minimum, one or more of the following forms of delivery:
 - Appropriate broadcast media (such as radio and television);
 - Posting of the notice in conspicuous locations throughout the area served by the water system;

- Hand delivery of the notice to persons served by the system; or
- Another delivery method approved in writing by the primacy agency”.

NOTE:

The NMED/DWB interprets this to mean that delivery of public notice during an acute total coliform violation will be decided on a case by case basis based on system size, system configuration, system classification (community, non-transient, non-community or transient non-community) and other factors. This decision will be made by the NMED oversight person in conjunction with input from the field office supervisor and the system. In the case of community water systems, at least 2 - 3 of these delivery methods will probably be required. Schools also may require 2 of these methods.

12. After the site visit and investigation, the oversight person should co-ordinate with his/her supervisor, the NMDOH liaison and the Department of Health to make decisions regarding the direction of needed follow-up actions. NMDOH needs to be kept in the loop in case of a waterborne disease outbreak.
13. The oversight person is also required to send an acute violation letter to the system as soon as possible after the violation. This letter will spell out the nature of the violation and the samples that created it, and what the system needs to do to get back into compliance or off a boil advisory. This can include: specific public notice requirements, shock chlorination of the source, storage tanks and distribution system, boosting of chlorine residual, collection of chlorine residual readings and a clean “special sample” on 2 consecutive days or some other approved method that indicates that the distribution system is clean.
14. Once the decision making process is complete, the oversight person needs to work with the system to make sure that all requirements are met.
15. Once all requirements are met, consult with NMDOH regarding rescinding the “Boil Advisory”. Once the end of the “Boil Advisory” is agreed to, the system must be called to rescind the “boil advisory” and the NMDOH liaison needs to be notified to rescind the NMED press release if one was sent out. If an NMED “Boil Advisory” was sent out as a press release, a written “Rescind Boil Water Advisory” press release must also go out. Copies of both of these documents must get into the file.
16. The water system needs to be informed of any future actions that may need to be taken, such as collecting 5 “Routine” samples the month following the total/fecal coliform hits.
17. If the system in question has had a substantial total coliform history or has other circumstances, like a very large and spread out distribution system, the oversight staff should consider writing a letter requiring the system to install a continuous, automatic disinfection system if the system does not have one. This order should be approved by the office supervisor.

Note: The Drinking Water Bureau can also provide technical assistance or can use NM Rural Water and/or the Rural Community Assistance Corporation for other forms of technical assistance.

APPENDIX “5A”

Technical Assistance Checklist (Questions) for Determining the Cause of a Fecal Coliform Acute Violation

Operational Procedures

1. Does the system have continuous, automatic disinfection? (chlorine, MIOX, UV etc?
2. How often are chlorine residuals taken? Where are they taken?
3. Has there been a time recently when you found no chlorine residual? If so, could this be the reason for the fecal contamination?
4. Have there been any line repairs, new construction, leak repairs, or other problems that could have allowed contaminated water to get into the system? If so, was the line/facility properly disinfected?
5. If UV light is used, is the light replaced and the unit serviced every 12 months?
6. Is the system properly flushed every 6 months?

Sampling Procedures

1. What kind of a tap was used to collect the sample from? (kitchen swivel tap, outside faucet, bathroom tap, frost free hydrant, etc.) Kitchen swivel faucets, outside taps and frost-free hydrants should not be used.
2. Was a chlorine residual reading taken when the sample was collected?
3. Was the filter removed from the end of the faucet?
4. Was the faucet flushed for at least 5 minutes prior to sampling?
5. Was the faucet either burned or disinfected with chlorine bleach prior to sampling?
6. Was the bottle cap screwed on tightly when the bottle was received from the lab?
7. Had the bottle sat around the water office for more than a year prior to using it?
8. Was care used to not introduce any bacteriological contaminants into the bottle when filling the bottle(s)? I.e. no sneezing over the bottle, dropping the bottle, no splash when filling the bottle?

9. Was the sample collected at a sink where diapers are changed?
10. Was the sample iced between collection and delivery to the lab?
11. Was the sample delivered to the lab the same day it was collected?
12. Was the sample collected from a dead end?
13. Was the sample collected according to an approved sample siting plan?

Well construction

1. Is there a proper sanitary seal on the wellhead(s)?
2. Is there a large enough and properly constructed concrete pad around each of the wells?
3. Does the wellhead terminate at least 18" above grade?
4. Are well vents, air vacs, blow-offs, etc. properly screened and at least 18" above grade?

Storage Tanks

1. Has someone looked into all of the storage tanks with a high powered flashlight to see if there are any dead animals, birds, insects, etc. that could be contaminating the system?
2. Are tank hatches properly constructed, to keep out rain and vermin and are they kept locked?
3. Are air vents properly screened?
4. Are tank overflows screened or properly protected with a tight fitting flap valve or pinch valve? Do the overflow pipes terminate 12" to 18" above grade?
5. Are all cathodic protection points on the top of the tank completely sealed?
6. Are the attachment points for the target and other appurtenances properly sealed?
7. Are storage tanks inspected annually, and is cleaning and maintenance done routinely on the tanks?

Cross-Connections

1. Are there any known cross-connections?
2. Are there any illegal wells connected to any homes or businesses on the system?

3. Are there any un-drained manholes, pits, etc. where dirty water could enter the system through submerged valves, fittings, etc. If so, are any filled with water?
4. Does the system have a cross-connection control plan?

Miscellaneous Questions

1. Was there a heavy thunderstorm prior to the sample collection?
2. Are any booster pump stations, well houses, etc. flooded?
3. Was there any other unusual event or occurrence in the last few days?

APPENDIX “5B”

“Boil Water Advisory” Supplemental Information

This information is to help clarify what actions need to be accomplished during a “Boil Water Advisory” event.

1. A “Boil Advisory” is issued when there are total coliform and fecal coliform (E-Coli) bacteria in the potable drinking water system. Boiling water at a rolling boil for 5 minutes will kill these bacteria and any other microbiological pathogens that could be in the water and will make the water safe to drink from a biological standpoint.
2. The US EPA has created a definition of human consumption that includes all the ways that drinking water can enter the human body. During a “Boil Advisory” all of these pathways into the body must be considered and protected against.
3. Human consumption includes:
 - a. Eating
 - b. Drinking
 - c. Cooking
 - d. Dishwashing
 - e. Oral hygiene
 - f. Bathing and showering

Boiled water or approved bottled water must be used for most of these “Human Consumption” purposes. Also consider the following:

1. Eating – This includes such activities as washing foods that will not be cooked, like salad vegetables or fruit and ice making. If your refrigerator has an automatic ice maker, you will need to flush the water line to the ice making compartment and throw away all of the existing ice.
2. Drinking – Water for coffee making must also be boiled because a coffee maker does not heat the water sufficiently to kill microbiological pathogens.
3. Cooking – If tap water will be used for cooking, the water must boil at a rolling boil for at least 3 minutes.
4. Dishwashing – Most household and non-NSF approved dishwashers do not heat water to a high enough temperature to kill micro-biological pathogens. Use boiled water for this purpose.
5. Oral hygiene includes brushing teeth, washing dentures or any other activity that could introduce contaminated water into the mouth.

6. Bathing and showering – Bath and shower water does not need to be boiled, but care must be taken to not ingest any of the bath or shower water. Of particular concern are children. During a “Boil Advisory” make sure your children understand not to swallow any of the shower or bath water or bath them in already boiled water. Additionally, bathing or showering is not recommended if an individual has open cuts, sores or wounds in the skin.
7. Hand washing – This is not considered to be “Human Consumption”. However, some people use their hands to drink water from a tap. Again this is a major concern for children.

This supplemental information should be given to all of your customers with the “Boil Advisory” notice and to anyone else who may drink or use the water.

Chapter 6. Acute Nitrate Contamination Event

Emergency Response protocol for Acute Nitrate/Nitrite and Nitrite Violations for Oversight Staff and Water Systems

1. If a “Routine” nitrate/nitrite or nitrite compliance sample exceeds one half of the maximum contaminant level (MCL), the system must begin collecting quarterly nitrate or nitrite samples during the next calendar quarter and stay on quarterly sampling unless a “reliably and consistently determination” can be made or until the system installs an approved treatment technology that reduces the nitrate/nitrite level below the MCL. *(This step is not technically part of a nitrate/nitrite “acute emergency response” but is included for your information).*
2. If a “Routine” nitrate or nitrite sample result is over the maximum contaminant level (MCL), a “Confirmation” sample must be collected within 24 hours of the system being notified of the MCL exceedence.
3. Once the nitrate/nitrite acute violation is confirmed, the NMDOH liaison, in the DWB Santa Fe Office, must be notified, so he/she can co-ordinate with the NM Department of Health.
4. If the “Confirmation” sample cannot be collected within the 24 hour period, the water system must immediately notify persons served by the water system in accordance with 40 CFR 141.202 and meet other Tier 1 public notification requirements under 40 CFR Subpart Q. This situation is similar to an “Acute nitrate/nitrite violation”.
5. 40 CFR 141.202.c states: “Public water systems must provide the notice within 24 hours in a form and manner reasonably calculated to reach all persons served. The form and manner used by the public water system are to fit the specific situation, but must be designed to reach residential, transient and non-transient users of the water system. In order to reach all persons served, water systems are to use at a minimum, one or more of the following forms of delivery:
 - a. Appropriate broadcast media (such as radio and television);
 - b. Posting of the notice in conspicuous locations throughout the area served by the water system;
 - c. Hand delivery of the notice to persons served by the system; or
 - d. Another delivery method approved in writing by the primacy agency”.

NOTE:

The NMED/DWB interprets this to mean that delivery of public notice during an acute nitrate violation will be decided on a case by case basis based on system size, system configuration, system classification (community, non-transient, non-community or transient non-community) and other factors. This decision will be made by the NMED oversight person in conjunction with input from the field office supervisor, and the

system. In the case of community water systems, at least 2 - 3 of these delivery methods will probably be required. Schools also may require 2 of these methods.

6. The system that could not collect a “Confirmation” sample within 24 hours of notification must still collect a “Confirmation” sample within 2 weeks of the initial notification of the MCL exceedence
7. If the average of the results of the “Confirmation” sample and the “Routine” sample are still over the MCL, the system is out of compliance and has an “acute” nitrate MCL violation.
8. At this point, the system must complete public notification requirements as described in item 5. of this guidance.
9. The NMED/DWB oversight person must send a violation letter to the water system ASAP with the public notice requirements and other information.
10. This public notification must continue as long as the violation persists or until the system installs an approved treatment process that reduces the nitrate/nitrite level in the water to less than the MCL. *(Because a nitrate/nitrite MCL violation is caused by nitrate/nitrite sample results that are well above 1/2 the MCL, the affected source should already be on continuing quarterly sampling).*
11. If the system in violation is a community water system, it must give a copy of the most recent public notice to all new billing units or new customers prior to or at the time service begins, as long as the violation persists.
12. The oversight person needs to stay on top of this situation and decide if or when a system should be ordered to install a best available technology (BAT) treatment process that will reduce the nitrate/nitrite level to less than the MCL or take some other action. NMED/DWB can and will set a deadline for this.

Appendix A

Communication Protocol

Drinking Water Bureau **Interim Guidelines for Alert Notification of** **Drinking Water Systems for a Threat or Intrusion**

The following interim guidelines shall be used by a drinking water system that receives a threat or detects an intrusion or tampering at a water system facility, such as a water source, treatment plant, stored chemicals, pump stations, storage facilities or the distribution system. This includes cut fences, broken locks, damaged doors, windows and any other suspicious evidence of intrusion.

- 1. Contact the local law enforcement agency (city/county police or sheriff) at 911**
- 2. Contact the NM Emergency Operations Center at (505) 476-9635, provide information on the Required Content for Threat and Intrusion Report.**
(Do not delay in reporting if all information is not known)
- 3. Contact the NM Environment Department, Drinking Water Bureau Area Office Manager:**
 - District I: Albuquerque 222-9532 - District III: Las Cruces 649-3057**
 - District II: Santa Fe 670-4178 - District IV: Ruidoso 258-3272****If no response at the Area Office, or outside normal business hours, contact:**
NM Environment Department On-Call Emergency Contact: 827-9329 or 660-3107

FBI INVOLVEMENT:

If there are indications of terrorist activity, an attack, or written material stating the water system has been poisoned; also contact the FBI at 889-1300.

Required Content for a Threat and Intrusion Report for EOC & Drinking Water Bureau	
Name of Drinking Water System Utility:	
Name of Drinking Water System Facility Site Affected:	
Precise Location of the Threat or Intrusion (Lat/Long, Address, Cross Streets):	
Community(s) Serviced by the System:	
Primary Point of Contact: Telephone:	Cell Phone:
Alternate Point of Contact: Telephone:	Cell Phone:
Most recent inspection verifying that fences, locks, doors, windows, etc were intact: Time:	Date:
Threat or Intrusion Noticed: Time:	Date:
Threat or Intrusion Details:	

What has been done?
What is being done?

NM EMERGENCY OPERATIONS CENTER (EOC)

The EOC contacts the following:

- | | |
|---|----------------------------------|
| - NM Environment Department On-Call Emergency Contact | 827-9329 or 660-3107 |
| - NM Department of Health On-Duty EOCR | 231-5506 |
| - NM State Police | 476-9676 |
| - Governor's Office of Homeland Security | 1-505 469-2132 or 476-9613 |
| - City/County Emergency Manager | ----- |
| - FBI | 889-1300 |
| - EPA Region 6 Emergency Response Center | 1-866-372-7745 or 1-214-665-9701 |

NM ENVIRONMENT DEPARTMENT

A. On-Call Emergency Contact collects information from the utility or EOC and contacts:

1. Drinking Water Personnel:

- Drinking Water Bureau, Area Office Manager (District I, II, III, IV), or
- Chief, Drinking Water Bureau, or
- Manager, District Office (District I, II, III, IV), or
- Director, Field Operations Division

2. Office of Emergency Preparedness

B. NMED, Drinking Water Bureau Personnel Responsibilities:

1. Initiates:

- Samples to be taken at intrusion site(s)
- Samples to be taken to the appropriate laboratory
- Follow-up on sample status

2. Coordinate with EPA Region 6

3. If and when appropriate, the Area Office Manager issues a Drinking Water System Threat and Intrusion Advisory to NM drinking water systems, instructing them to inspect their facilities, as soon as practical.

C. NMED, Office of Emergency Preparedness Responsibilities:

1. Contacts:

- Communications Director / Cabinet Secretary
- Director, Field Operations Division

2. Prepare a briefing for the Cabinet Secretary

NM DEPARTMENT OF HEALTH

On-Duty EOCR

- Coordinate with the NM Department of Health, Scientific Laboratory Division
- Evaluate the test results and determine the potential impact on human health

NM DRINKING WATER SYSTEMS

Upon receipt of the Drinking Water Bureau's Drinking Water System Threat and Intrusion Advisory message, each drinking water system utility shall:

- Inspect facilities, as soon as practical
- If a threat or intrusion is identified, follow the *Interim Guidelines for Alert Notification*,

Drinking Water System for a Threat or Intrusion

NOTE:

Upon receipt and review of these Guidelines, Drinking Water Systems should conduct a communications test with the NM Emergency Operations Center at 476-9635.

Periodic communications tests (i.e. quarterly) are encouraged. The EOC will record the communications tests and report the information to the participating departments.

Interim Guidelines for Alert Notification, Drinking Water System for a Threat or Intrusion, November 17, 2004

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Appendix B

Site Characterization

Site characterization is the process a water system uses to determine if a weapon of mass destruction (WMD), other hazardous compound or biological agent has been introduced into the system. The process is also designed to help identify what type of chemical or agent was used. Site characterization can be extremely dangerous, (ie, any kind of contaminant including: radiological, biological, WMD, etc). Therefore, NMED/DWB strongly recommends that water systems become very familiar with Module 3 of EPA's "Response Protocol Toolbox". Since time is very limited and HAZ MAT trained personnel may not be available, water system and DWB personnel may have to perform this evaluation.

The site characterization in this outline has been greatly simplified from "EPA's Response Protocol Toolbox". For a much better understanding of what is involved, please refer to Module 3 of EPA's "Response Protocol Toolbox: Responding to Drinking Water Contamination Threats and Incidents". This document can be downloaded from EPA's website: <http://www.epa.gov/safewater/security/underEmergencyResponseTools>.

Module 3 contains very important safety information as well as "Due diligence" methodologies that must be employed in a potential water contamination event to prevent injury/poisoning of investigating personnel.

1. Preparation for a potential contamination incident
 - A. Creation of a vulnerability assessment (VA) and an emergency response plan (ERP);
 - B. Training of system personnel;
 - C. Obtain personal protective equipment (PPE).
 - 1) Goggles/face shield
 - 2) Apron
 - 3) Rubber gloves
 - 4) Eye wash kit
 - 5) Breathing apparatus (important, but optional because of the cost).
2. Threat, detection or discovery of a possible water contamination incident.

- A. Assemble a team of 2 or more to investigate the intrusion or threat. All of these people need to be able to communicate between themselves and the incident commander (on or off-site).
 - B. Make “Is the threat Possible”, “Is the threat Credible” or “Has the threat been confirmed” determination. If a threat is possible or credible, the system needs to notify its personnel and prepare for the incident being confirmed.
 - C. When the incident or threat has been confirmed, activate the water system’s emergency response plan.
3. Investigation and Site Characterization (simplification of EPA’s Response Protocol Toolbox)
- A. Initial screening before entering site:
 - 1) Scan area for evidence of what might have been brought into the site:
 - gas can,
 - container with residual material,
 - pumps or hoses
 - written material,
 - evidence of hazardous material,
 - personal protective equipment that perpetrators used to protect themselves
 - etc.
 - 2) If there is evidence of high hazard (chemical weapons, nerve gas, bio-toxins or biological pathogens) which pose a potential risk of exposure through dermal or inhalation routes:
 - In this case, water system personnel cannot enter the site. HazMat responders with training and personal protective equipment (ppe) must be contacted to investigate the site.
 - B. Radiation screening (Proceed cautiously, begins outside the potentially contaminated site).
 - 1) Read the background radiation level at a point well away from the intrusion site (either by sound or on meter).
 - 2) Test for radiation outside the potentially contaminated site.
 - 3) If normal, one person enters the site with the radiation meter and scans around system facilities such as wells, storage tanks (including stairs, access hatch etc.), treatment buildings and booster pump stations (inside if breached), etc. The radiation meter must be moved slowly and close to the surface being tested.
 - 4) If a reading of 3 times or more of the background level is obtained, leave the scene immediately and notify the New Mexico Emergency Operations Center.
 - 5) If no evidence of radiological contamination, continue with the investigation.
 - C. Complete investigation (Preserve evidence for law enforcement investigation, try not to disturb footprints, tire tracks, fingerprints, material evidence, etc.)
 - 1) Assess damage;
 - 2) Record notes, especially if there is evidence of a particular contaminant or type of contaminant;
 - 3) Take pictures;

4) Be aware of protection of evidence for law enforcement.

D Identify additional/secondary sites of potential water contamination

- 1) If spread of contaminants may have occurred;
- 2) The threat indicates the possibility of multiple contamination events;
- 3) Conduct site characterization of these secondary sites.

E. If there is evidence of intrusion into a source (well), storage tank, transmission or distribution line, etc.:

- 1) Make the 3-4 initial phone calls (Local/state police [911], NMEOC, local Drinking Water Bureau office); and call the FBI if there is evidence of terrorism.
- 2) Immediately isolate the facility or section of distribution system by valving off;
- 3) Run conductivity, PH, cyanide and chlorine residual;
- 4) Compare PH, cyanide and conductivity to baseline results. (Water systems are encouraged to establish baseline results by running these 3 samples semi-annually for the first year or two and annually thereafter from all sources, storage tanks and different areas of the distribution system. The results need to be recorded).
- 5) Baseline levels for chlorine residual should also be recorded for different areas of the system.
- 6) Call these results into the local DWB office ASAP;
- 7) Boost the chlorine residual in the affected facility;
- 8) If possible, collect total coliform samples.

Note: After each phase of the site characterization, the findings should be reported to the incident commander (on or off-site). This person will make the determination to continue the site characterization, or halt it and call in official emergency responders.

Appendix C

Emergency Response Plan Resources and Tools

1. EPA's "Emergency Response Plan Guidance for Small Water Systems to Comply with the Public Health Security and Bioterrorism Preparedness and Response Act of 2002".
 - A. Download this guidance document from:
<http://www.epa.gov/safewater/security>;
 - B. Click on "Emergency / Incident Planning;
 - C. Scroll down to "Emergency Response Planning Tools and Guidance Documents"
 - D. Click on "Emergency Response Plan Guidance for Small and Medium Systems.
 - E. This document is fairly detailed, but produces an excellent emergency response plan for small water systems.
 - F. Guidance only, the ERP is created from scratch.
2. New Mexico Rural Water Association SEMS Software
 - A. This CD can be used to create an EPA approved vulnerability assessment and emergency response plan.
 - B. Call NMRWA at (505) 884-1031 for a CD.
 - C. The ERP created by this method is simpler and shorter than EPA's guidance document.
3. Rural Community Assistance Corporation's (RCAC) "Vulnerability Assessment and Emergency Response Guides and Templates"
 - A. Available from RCAC, at (505) 298-4511;
 - B. CD similar to the SEMs Software.

Appendix D

Sampling Equipment Needed for Standard Laboratory Analysis (from EPA's "Response protocol Toolbox: Responding to Drinking Water Contamination Threats and Incidents")

1. This information is found in Module 3 of EPA's Response Protocol Toolbox, pages 21 – 23.
2. **Recommended safety supplies are included.**
3.
 - A. Download this guidance document from:
<http://www.epa.gov/safewater/security>;
 - B. Click on "Emergency / Incident Planning;
 - C. Scroll down to "Emergency Response Planning Tools and Guidance Documents"
 - D. Click on "Response Protocol Guidelines".

Appendix E

Information Gathering from Water System During an Incident/Emergency

When an incident is reported to NMED, one of the most important tasks facing DWB personnel (oversight or the District Security Coordinator), is obtaining information about the incident from the water system. This is a critical step in the response and the more information gathered, the better. Once the water system has reported the incident to local law enforcement, the NM Emergency Operations Center (NMEOC) and the local Drinking Water Bureau office, the water system will be very busy responding to the incident. The purpose of gathering as much initial information about the incident as possible is so NMED will have pertinent information and will not have to continually contact the system for information. In fact, according to NMED/DWB's Emergency Response Plan (ERP), the DWB oversight person is the only person authorized to contact the water system (with the exception that law enforcement can be given access to contact the water system). This person is required to be the water system contact, but is also responsible for limiting contact with the water system.

This information gathering task basically consists of "picking the brain" of the water system and gathering as much information as possible. In other words, after the contact from the water system, NMED/DWB should have as much information about the incident as the water system does. This will allow NMED/DWB to disseminate needed information out to other partner agencies through the NMEOC without interrupting the water system. The following list describes information that needs to be obtained from the water system, (even if the water system is reluctant to stay on the phone):

1. Date and time of discovery of the incident
2. Nature of incident: Find out exactly what damage occurred, what was stolen, breached, etc. Be very detailed and make a complete list of all actions, activities that occurred, might have occurred during the incident. Don't miss anything!
 - A. Any evidence that was left behind by the perpetrators that could indicate what they may have done.
 - B. What could have occurred? Water contamination, shorting out of an electrical circuit, well or pump damage, etc.
3. What was the probable target/ultimate intention?
4. What counter measures exist at this facility?
5. Who was the probable perpetrator? (high school or other vandal, robber, disgruntled employee, domestic terrorist [right, left, extremist group], international terrorist, etc.)
6. Who discovered the incident? (List all people present with phone numbers and e-mail addresses).

7. When was the last time this facility was checked/inspected? (date and time) Who was present? Get their contact information.
8. What was the probable timeframe of the incident?
9. Have the 3-4 mandatory phone calls been made? (local law enforcement, NMEOC, DWB and the FBI (if there is evidence of terrorism) Note the times of these contacts.
10. Who responded?
 - A. Name of agency, location
 - B. Name of officer
 - C. Cell phone, office phone, e-mail address
11. Arrival time of law enforcement
12. Departure of law enforcement
13. List any law enforcement conclusions, concerns, etc.
14. Has law enforcement concluded their investigation? Is the site cleared for entry by water system personnel and others?
15. Obtain the water system contact information (name, cell phone, office phone, pager, e-mail, etc.). This person should be the person designated by the water system to communicate with NMED.
16. Does the water system have its own ERP?
17. Does the system have a copy of the NMED/DWB ERP?
18. Does the system need assistance from NMED, using the NMED/DWB ERP? Offer assistance.
19. Does the system have or have access to an emergency test kit?
 - A. Do they know how to use it? Offer assistance
20. Does the water system understand "Site Characterization"? Offer assistance with this.
21. What steps has the water system taken?
22. If unavailable from the system file, obtain a description of the pumping dynamics and flow of the system (ie. can a well, intake, treatment plant, storage tank, section of distribution system, etc. be flushed or isolated from the system)?

Note: If the water system is reluctant to spend enough time with you to get the needed information, please explain that getting all necessary information initially may prevent contacts later on when the system is busy responding, dealing with law enforcement, etc. Taking the time initially will save the water system interruptions later on.

This list is not meant to be comprehensive or rigid. During each individual incident there may be circumstances that require other/different information. Please be flexible and respond according to the nature of the current incident.

Appendix F

Emergency Responder Contact List

New Mexico Emergency Operations Center

NMEOC (505) 476-9635

New Mexico Environment Department

On-Call Emergency Contact (505) 660-3107 cell
(505) 827-9329

Hazardous Waste Spill Response (505) 827-9329

Dennis Pepe, NMED Emergency Coordinator (505) 690-5879 cell
(505) 827-2842

Anna Marie Ortiz, Environmental Health Division Director (505) 827-1400, Ext. 1005

NMED Drinking Water Bureau

Rob Pine, Acting Bureau Chief (505) 476-8642

Chuck Thomas, District I Supervisor (Albuquerque) (505) 222-9532
(505) 670-5684 cell

Mike Huber, District II Supervisor (Santa Fe) (505) 476-8638
(505) 660-3834 cell

Ricardo Jacquez, District III Supervisor (Las Cruces) (505) 647-7957
(505) 649-3057 cell

Joe Savage, District IV Supervisor (Ruidoso) (505) 258-3272

Darren Padilla, Security Program Coordinator (SF) (505) 476-8631

Jerome Lewis, District 1 Security Coordinator (Alb.) (505) 222-9534
(505) 379-7368 cell

Jan Dye, District II Security Coordinator (Raton)	(505) 445-3621/1002
Ernest Valenzuela, District III Security Coordinator (LC)	(505) 647-7958 (505) 649-3053 cell
Ben Arguijo, District IV Security Coordinator (Hobbs)	(505) 393-4302 (505) 973-0731 cell
Joe Chavez, Sampler Supervisor	(505) 476-8635 (505) 670-4178 cell

EPA Region 6

Emergency Response Team	(866) 372-7745
Regional Response 24 hr.	(214) 665-9701 1-800-424-8802
Greg Grover	(214) 665-2776
EPA CID	(214) 665-6630
Vernon Jackson (EPA CID – Albuquerque)	(505) 400-9327 cell
Larry Wright	(214) 665-7151 (214) 557-4632 cell
Blake Atkins	(214) 665-2297
Raji Josiam	(214) 789-9897 cell
Chris Rhule	(214) 7899587

FBI

Albuquerque Office	(505) 224-2000
Harry Betz (JTTF) - Albuquerque	(505) 889-1334 (505) 235-6833 cell
Wayne Shuptrine, Supervisor, Albuquerque	(505) 889-1341

Governor's Office of Homeland Security

R. L. Stockard (Director)	(505) 476-9613 (505) 476-9635 after hours
Captain Peter L. Conticelli	(505) 469-2132 cell (505) 476-9613

NM State Police Office of Emergency Management (OEM)

Bob Redden	(505) 476-9676
Jeff Phillips	(505) 476-9677

Scientific Laboratory Division (SLD)

Phillip Adams (Chemistry Lab Director)	(505) 841-2510
John Nihart (Emergency Response Coordinator)	(505) 841-2517
Chris Dean (Water Chemistry)	(505) 841-2555
Ron Amato (Heavy Metals)	(505) 841-2593
Tim Chapman (Organics)	(505) 841-2571
(Radiochemical)	(505) 841-2574
Pascale Leonard (Counter terrorism and WMD)	(505) 841-2549
SLD main receptionist	(505) 842-2500

NM Dept. of Health

On-Duty EOCC (Emer. Operation Center Representative)	(505) 231-5506
Judy Espinoza	(505) 841-5894 (Alb. office) (505) 827-2767 (SF office)
Eric Gregory	(505) 476-7842
Joyce Lincoln (Office of Health Emergency Management)	(505) 476-7789

Albuquerque Police Dept.

Larry Sonntag (505) 768-2441

Detective Brian Martinez (505) 875-3535

Emergency Sampling Assistance

Sandia National Labs (SNL)- Wayne Einfeld (505) 845-8314

SNL - Ray Finley (Water Program Manager) (505) 844-4462

Los Alamos National Labs – Ron Dolin rmd@lanl.gov

National Guard 64th Support Team – Major Jaramillo (505) 867-7206

State Information (Phone Numbers)

Departments and Agencies (505) 827-9632

Toll Free 1-800-825-6639

Employee Locator (505) 476-7771